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DP257

‘DCC Management of Duplicate Messages’

Modification Report

Version 0.3

29 Jan 2025

Corporate member of
Plain English Campaign
Committed to clearer
communication

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About this document

This document is a draft Modification Report. It currently sets out the background, issue, and progression timetable for this modification, along with any relevant discussions, views and conclusions. This document will be updated as this modification progresses.

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1. Summary

This proposal has been raised by Matt Roderick from en3rgy.

Part of the Data Communications Company's (DCC) remit is to ensure Data is easily communicated to SEC Parties (Suppliers, Network Distributors, Other Users) from Smart Meters. This creates varying levels of traffic through the DCC System, and there are several factors that impact the traffic flow. The DCC is undertaking a project on Traffic Management within their system to ensure that the system is provided in a cost-effective, sustainable, and scalable way.

The DCC has identified areas that could be addressed to provide capacity improvements. One area is duplicated messages. These occur when the same or different Parties request multiple instances of identical messages to a unique device, within a set period, and the returned content has not changed, creating inefficiency through repeat and unnecessary use of network capacity. This results in two identical requests going through the DCC Total System to retrieve the same information.

The Proposer would like to limit a unique message to only crossing the end-to-end network once in 24 hours and any further requests in that period for that unique message to be served from the Data cache.

2. Issue

What are the current arrangements?

DCC System Traffic

SEC Appendix E 'DCC User Interface Services Schedule' (UISS) sets out the DCC's Service Requests (SRs) exchanged between the DCC and DCC Users. As the number of Smart Meters installed increases, the volume of SRs will naturally increase. Additionally, it is predicted that the number of Other Users and frequency of requests is likely to increase in the coming years.

This is a result of DCC Users and consumers wishing to have more frequent access to their Data to help use potential new products and services. The DCC has highlighted that it is not cost efficient to procure capacity to manage the future peak loads which will leave the Total System at low capacity for most of the time. Therefore, the DCC would like to address how it reduces the traffic footprint.

Duplicate Service Requests

Duplicate Service Requests are a result of one, or multiple, DCC Users requesting the same information, or repeat requests. The most common example of duplicated message is a meter reading request: a Supplier will request a meter reading for billing purposes and an Other User requests the same Data for a consumer's consumption app.

Currently, each individual request and response would need to travel the full length of the DCC Total System, generate a response from the Device, and that response travels all the way back to the User.

What is the issue?

The same or different DCC Users request multiple instances of identical messages to a unique Device within a set period and the returned content has not changed, creating inefficiency through repeat and unnecessary use of capacity of the end-to-end network.

Compounded by future growth in demand over the next decade, from the meter install base, increases in messages per meter from new use cases and changes in customer type and mix, e.g., there are an increasing number of DCC Users who require access to the same meter Data. Supplier Parties require Data for consumer billing, Electricity Distributors require Data in aggregate to support network management and forecasting, while Other Users require Data to support a wide variety of new and innovative services.

Each DCC User generates a new unique message across the DCC network to receive the Data they require, potentially generating significant volumes of duplicate message traffic and placing meters and communication networks under ever-increasing pressure to grow.

The DCC is tasked by Ofgem to provide the most cost-effective system it can and therefore is looking for alternatives to manage the increase in volume. The DCC could purchase more capacity to manage the incoming SRs, however, these costs would be passed to Industry Parties and ultimately consumers.

What is the impact this is having?

The volume of duplicate messages can increase strain on the DCC Total System and poses a risk of reduced performance and service provision. At times of high traffic, the additional messages could result in either the DCC not meeting its Target Response Times (TRTs), or cause failure of the messages being delivered due to requests exceeding the DCC Total System capacity.

If left unresolved, the DCC would need to invest in additional infrastructure to maintain the service which would be at a significant cost to industry. All Parties are expressing significant concerns regarding growing DCC traffic and the associated costs and technical challenges in dealing with increasing network traffic.

This proposal introduces a simple technical solution that will significantly lower traffic across the DCC network.

Impact on consumers

There may be an impact if responses and Alerts are not received in time, potentially impacting all business processes like Install & Commission, Change of Supplier, Change of Tenancy, Prepayment top up, Meter Firmware download, etc.

3. Assessment of the proposal

Areas for assessment

What would the Proposer like to achieve?

The Proposer would like to develop a solution by which identical Data that is requested by one or multiple Users within 24 hours does not have to go through the DCC Total System to be retrieved.

Data Storing and Security

As part of Section G 'Security' (G2.18) Data should be disposed of when it is no longer required for Authorised Business. Therefore, a solution that has Data storage in mind should have Data security and privacy assurances discussed and where necessary put in place as part of the solution development.

The modification will be presented to the Security Sub-Committee (SSC) for input on how the developed solution will remain compliant with Data security.

What Service Requests and Devices would be impacted?

The modification will look at duplicate SRs for both Electricity Smart Metering Equipment (ESME) and Gas Smart Metering Equipment (GSME) Smart Metering Equipment Technical Specifications (SMETS)1 and 2 Devices, however the scope of which SRs to be addressed as part of this modification will need to be agreed. Data from SMETS1 ESME Devices was addressed by [MP256 'SEC Alignment with DCC SMETS1 MHHS Capacity Requirements'](#) for three SRs.

Sub-Committee input

SECAS has engaged with the Chairs from the Operations Group (OPSG), the Technical Architecture and Business Architecture Sub-Committee (TABASC), SSC and the Smart Metering Key Infrastructure Policy Management Authority (SMKI PMA) to confirm what input is required from these forums. SECAS believes the following Sub-Committees will need to provide the following input to this modification:

Sub-Committee input	
Sub-Committee	Input sought
OPSG	Input on business requirements and solution development.
SMKI PMA	None
SSC	Input on developing a solution that meets the SSC's approval of Data security
PSC	None
TABASC	Input to the solution development and end-to-end process for any changes to DCC Systems.

Observations on the issue

A Change Sub-Committee (CSC) member noted that this issue and solution were previously raised during discussions as part of [MP162 'SEC changes required to deliver MHHS'](#), and concluded it was possible for SMETS1 but not SMETS2 Devices. The DCC advised that it was ruled out at the time as it would involve decrypting encrypted messages, which would be a big undertaking. They also noted at that time the DCC did not have an accurate picture of the number of duplicates that existed, but the DCC now have a better understanding of the issue, the business case has changed.

Another member was concerned about the increase in traffic, noting the expectation that there will be a future increase of Other Users providing consumer services that will request months of Data. They were surprised that the figures provided were as high as they were and agreed this needs to be resolved as the problem will worsen. However, they noted that the costs will need to be investigated further.

Another member questioned the urgency, asking when the system would reach a breaking point. The DCC advised that their colleagues are currently producing this kind of detailed analysis and would need to include this information during the Refinement Process.

Another member queried how this issue interacts with other capacity management modifications, and suggested there appears to be a need for a programme to bring all those modifications together. The DCC advised that there is a programme and this issue needs to be assessed through a modification to feed into that overall programme. The issue is a different area from south and north bound prioritisation, as it is trying to reduce the flow of traffic that must travel through the end-to-end DCC Total System. Another member advised that DSP re-procurement also needed to be factored into this.

A member noted the potential benefits and highlighted these could support improvements in other areas. The member suggested that the Data be analysed further to break down how much of it consists of different Users requesting the same Data, or retries, for example. The DCC agreed, and stated they would return to the CSC with information on what is being duplicated.

Appendix 1: Progression timetable

Timetable	
Event/Action	Date
Draft Proposal raised	11 Dec 2023
Presented to CSC for initial comment	19 Dec 2023
Business Case developed	Jan 2024 – Jan 2025
<i>Modification discussed with Working Group</i>	<i>5 Feb 2025</i>
<i>Draft Proposal to Modification Proposal</i>	<i>18 Mar 2025</i>
<i>Business Requirements developed with Proposer</i>	<i>Mar - Apr 2025</i>
<i>Modification discussed with Working Group</i>	<i>7 May 2025</i>
<i>Modification discussed with OPSG</i>	<i>13 May 2025</i>
<i>Modification discussed with SSC</i>	<i>14 May 2025</i>
<i>Modification discussed with TABASC</i>	<i>15 May 2025</i>
Preliminary Impact Assessment requested	17 Jun 2025

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Timetable	
Event/Action	Date
Preliminary Impact Assessment returned	9 Jul 2025
Modification discussed with Working Group	6 Aug 2025
Modification discussed with SSC	13 Aug 2025
Refinement Consultation	20 Aug – 10 Sep 2025
Refinement Consultation responses discussed at Working Group	1 Oct 2025
Impact Assessment costs approved by Change Board	26 Nov 2025
Full Impact Assessment requested	26 Nov 2025
Full Impact Assessment returned	26 Jan 2026
Modification discussed at Working Group	Feb 2026
Modification discussed at TABASC	Feb 2026
Modification discussed at OPSG	Mar 2026
Modification discussed at SSC	Mar 2026
Modification Report approved by CSC	May 2026
Modification Report Consultation	May – Jun 2026
Change Board Vote	Jun 2026
Estimated Implementation	Jun 2028

Italics denote planned events that could be subject to change

Appendix 2: Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	Full term
CSC	Change Sub-Committee
DCC	Data Communications Company
ESME	Electricity Smart Metering Equipment
GSME	Gas Smart Metering Equipment
OPSG	Operations Group
SEC	Smart Energy Code
SECAS	The Smart Energy Code Administrator and Secretariat
SMKI PMA	Smart Metering Key Infrastructure Policy Management Authority
SMETS	Smart Metering Equipment Technical Specifications
SR	Service Requests
SSC	Security Sub-Committee
TABASC	Technical Architecture and Business Architecture Sub-Committee
TRT	Target Response Time
UISS	DCC User Interface Services Schedule